Airport Layout Plan (ALP) Checklist

Checklist Pending Posting on AWP Web

Proposed airport improvements must be pursuant to 49 U.S.C. Section 47107 (a)(16): Utilization of Navigable Airspace must be pursuant to 49 U.S.C. 44718 and 14 CFR part 77. All projects depicted on the ALP are subject to NEPA Environmental Analysis.The proposed project must meet the conditions described in Chapter 3 of FAA Order 1050.1E and/or FAA Order 5050.4A as appropriate.

Updated: 10/04/2004

ALP Checklist reflects drawing preparation requirements, as per FAA Advisory Circular (AC) 150/5300-13, Airport Design, Change 7, Appendix 7.

Review Date:	**Reviewed By:**
Airport:	
Airport Reference Code: Runway Approach Category (A-D) & Airplane Design Group (I-VI)	**Approach Visibility Minimum:** V, 1 Mile 3/4 Mile, 1/2 Mile, CAT II, CAT III
Critical Design Aircraft: **supported by Forecast and must reflect 500 annual operations at this airport. supported by both a Master Plan Forecast and Airline Commitment Letter.**	**Design aircraft must be *Regional Jets (RJ) must be**

**Need for Runway Design Standard caculation.*

Wing Span:

Approach Speed:

ALP Runway Configuration Drawing	Comments
(1) Sponsor Cover Letter - Listing All changes to ALP, since last submittal.	
(2) Scale	
Sheet size - Standard 22" x 34". Note: For Primary Airports only - will allow 36"x48" sheet size, if scale is 1"=400'. Use multiples sheets as needed.	
Scale - Stay within range of 1" = 200' to 1" = 600' (1:2000 to 1:8000).	
Runway Configuration Drawing scale must be clear and readable.	
(3) North Point and Datum References - ref. www.ngs.noaa.gov/AERO/aero.html	
Indicate both True and Magnetic North	
Year of the Magnetic Declination	
North Arrow is to the top of the sheet. (If not practicable, orient North so that it is to the left).	
NAD 83 - North American Datum 1983 — (Horizontal coordinates)	
NAVD 88 - North American Vertical Datum 1988:for **all** Elevations. **Accuracy to 100th of foot (I.e., 454.12'MSL)**	
Section Corners - Minimum of two (2).	
(4) All Weather 36 Point Wind Rose - **(AC) 150/5300-13 Appendix 1, Wind Analysis Criteria**	
Cite data source (i.e., Weather Station).	
Cite period of time covered.	
Cite Number of Observations.	
Include individual and combined coverage for: Runways with **10.5** knots crosswind.	
Runways with **13** knots crosswind.	
Runways with **16** knots crosswind.	
Runways with **20** knots crosswind.	
(5) Airport Reference Point (ARP)	
Existing ARP with Latitude and Longitude to nearest second.	
Ultimate ARP with Latitude and Longitude to nearest second.	
(6) Approach Visibility Minimums - V, 1 Mile, 3/4 Mile, 1/2 Mile, CAT II, CAT III	

Existing - Designated:	***Future*** - Planned:
Runway End _____:	Runway End_____:
Runway End _____:	Runway End _____:
Runway End _____:	Runway End _____:
Runway End _____:	Runway End _____:
Runway End _____:	Runway End _____:
Runway End _____:	Runway End _____:

(7) Object Free Areas (OFA) Dimensions - A/C ground maneuvering, taxi, and holding allowed.	**List any deviations - Deviations will *Require* a Modification to Standards**
***Standard* OFA Length Beyond Stop End of Rwy and Width**	***Existing OFA Dimensions:***
Runway End_____: Length Beyond Stop End: Width:	
Runway End_____: Length Beyond Stop End:	
Runway End_____: Length Beyond Stop End: Width:	
Runway End_____: Length Beyond Stop End:	
Runway End_____: Length Beyond Stop End: Width:	
Runway End_____: Length Beyond Stop End:	
(8) Runway Safety Area (RSA) - Must be clear and graded; NAVAIDS frangible.	**List any deviations - NO Modification to Standards Allowed for RSA.**
***Standard* RSA Length Beyond Stop End of Rwy and Width**	***Existing RSA Dimensions:***
Runway End_____: Length Beyond Stop End: Width:	
Runway End_____: Length Beyond Stop End:	
Runway End_____: Length Beyond Stop End: Width:	
Runway End_____: Length Beyond Stop End:	
Runway End_____: Length Beyond Stop End: Width:	
Runway End_____: Length Beyond Stop End:	
Runway End_____: Length Beyond Stop End: Width:	
(9) Obstacle Free Zone (ROFZ)	**List any deviations - Deviations will *Require* a Modification to Standards**
**No Penetrations allowed, unless frangible NAVAIDS (fixed functoin), no A/C maneuvering allowed.*ROFZ required at all Airports: Instument, NonPrecision Instrument, and Visual approaches. Taxiways, Aprons, Roadways, Penetrations must be outside of OFZ.*	
Print "NO OFZ OBJECT PENETRATIONS" When no object other than frangible NAVAIDS penetrates the OFZ.	
Table - If object penetrations exist provide a table, list objects and proposed disposition indicating how they will be eliminated.	
To maintain clarity, place statement text at a location centerline to runway ends and beyond the RPZ.	
Width for Rwys with **Small** airplanes (less than 12,500 Lbs) is:	
1) **300 feet** wide for Rwys with Visibility Minimums of Lower than 3/4 statute mile.	
2) **250 fee**t wide for Rwys serving airplanes with Approach Speeds of 50 Knots or More.	
***Width** for Rwys with **Large** airplanes (more than 12,500Lbs) is **400 Feet** Wide.	
***Length** of **200 feet** beyond Rwy end is the required minimum.	
***Standard* OFZ Length Beyond Stop End of Rwy and Width**	
Runway End_____: Length Beyond Stop End: Width:	
Runway End_____: Length Beyond Stop End:	
Runway End_____: Length Beyond Stop End: Width:	
Runway End_____: Length Beyond Stop End:	
Runway End_____: Length Beyond Stop End: Width:	
Runway End_____: Length Beyond Stop End:	
Inner - Approach OFZ	
Required if the airport has Approach Lighting System (ALS), ALSF-2, MALSR, MALS, MALSF.	
Not Applicable.	
Applicable. Use a 2nd Drawing Sheet to depict Inner Approach and Inner Transitional OFZ.	
Begins 200 Feet from Runway Threshold with **50:1 Slope**	
Length extends 200 Feet beyond last light unit of ALS	

Width is equal to ROFZ

Inner - Transitional OFZ

If Runway has Visibility Minimum of Lower than 3/4 Statute Mile, the following applies:

Not Applicable.

1) For Rwys that serve Small airplanes:

3:1 Slope out from edges of the ROFZ.

Inner -Approach OFZ to height (H) of 150 feet above airport elevation.

2) For Rwys that serve Large airplanes:

CAT I - 6:1 Slope out from edges of ROFZ with H of 150 feet above airport elevation.

CAT II/III - From edge of ROFZ rises Vertically to H, then 5:1 Slope out to a distance

(Y) from Rwy Centerline, then Slopes 6:1 out to height of 150 feet above airport elevation.

Figure 3-5:* ***OFZ for Dispaced Threshold Rwys* *serving large airplanes with lower than 3/4 Statue mile Approach Visibility Min*

**See Chap 3; Para. 306 for Inner Approach OFZ and Inner Transitional OFZ.*

(10) Threshold Details - See AC 150/5300, Appendix 2, Figure A2-1, Dimensional Standards for locating thresholds.

*The threshold siting surface may be depicted on the drawing with dimensions to facilitate identifying object penetrations.

**Approach Obstacle Clearance Requirement for P, NPI, and Visual Approaches.*

Threshold Elevation NAVD 88

Displaced Threshold dimension from Runway end.

Print "NO THRESHOLD SITING SURFACE OBJECT PENETRATIONS" **When no object penetrates the threshold siting surface.*

Table - If object penetrations exist provide a table, list objects and proposed disposition indicating how they will be eliminated.

**Refer to appendix 2, paragraph 5 for the location, config, and dimensions of the threshold siting surface.*

(11) Runway Details - Also include in "***Runway Data Table"***

(a) Rwy Dimensions - Drawn within outline of runway.

Exsiting Rwy Length and Width	***Future*** Rwy Length and Width
Runway : _____ft X _____ ft	Runway : _____ft X _____ ft
Runway : _____ft X _____ ft	Runway : _____ft X _____ ft
Runway : _____ft X _____ ft	Runway : _____ft X _____ ft
Runway : _____ft X _____ ft	Runway : _____ft X _____ ft

Existing Runway Pavement should be lightly shaded on drawing.

(b) Separation Distances - Drawn and labeled within outline of runway.

Standard Parallel Runway Separation

Standard Runway to Parallel Taxiway Separation

(c) Rwy Orientation

Depict True Bearing (from True North), accuracy to nearest 0.01" degree on Runway

Depict Runway **End Numbers**

Depict Runway Centerline - with true bearing.

(d) Rwy Lighting /Approach Aides (ILS)

Exisiting Threshold Lights

Ultimate Threshold Lights

If **ILS** present, Depict Localizer

(e) Runway Marking - Include in the **Runway Data Table.**

Arrows to identify **Displaced Threshold** area. (Lead-in Taxiway to Runway End not Displaced Threshold)

Precision/Non-Precision *consists of Eight* ***(8) Stripes*** *(Configuration A);* ***No Stripes for Visual*** *. (150/5340-1H marking)*

Exsiting *Runway Marking*	
Runway End _____:	
Runway End _____:	
Runway End _____:	
Runway End _____:	
Runway End _____:	

Runway End _____:

Threshold Markings:

V - Visual - No Marking; only Rwy End Numbers & Aiming Point.
NP - NonPrecision
NP - Aiming Point
P- Precision
P - Aiming Point: 2 Rect. Markings, preferred beginning starting 1,020' from TH.
P- Touch Down Zone: Pairs of TDZ Markings every 500 feet.

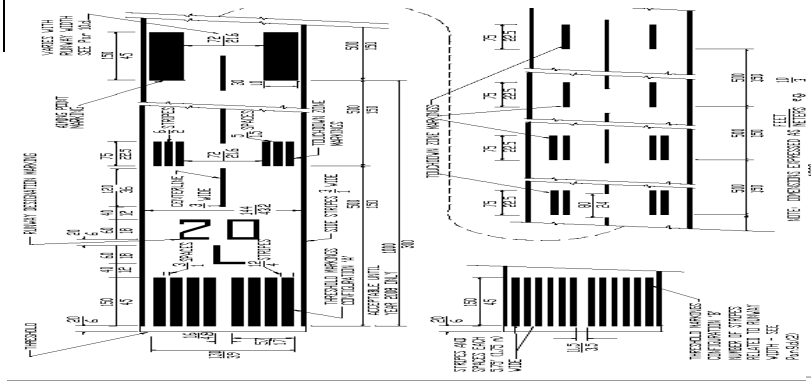

Figure 1. Precision Runway Markings

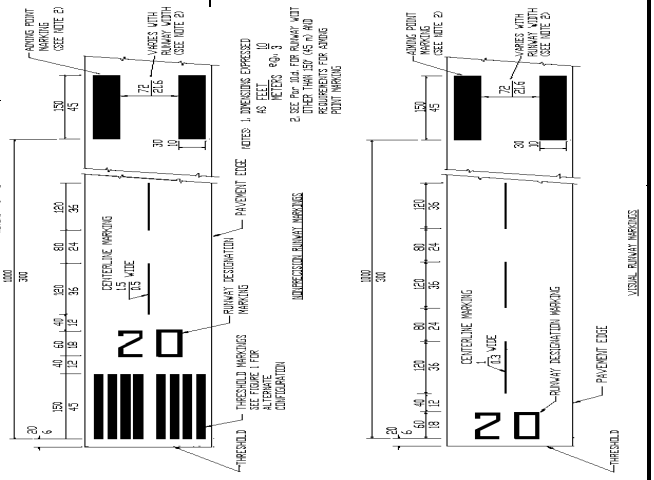

Figure 2. Nonprecision Runway and Visual Runway Markings

(f) Stage Lengths

Depict major developments of 3 stages (0-5, 6-10, 11-20 year)

(g) Runway End Coordinates - accuracy to nearest 0.01 second.

Existing Rwy End Coord.

Ultimate Rwy End Coord.

Displaced Threshold End Coord.

(h) Monuments

Depict the location of all survey monuments and reference markers.

Include a note describing the manner in which these monuments are protected.

Not Applicable.

(i) Declared Distances - No Declared Distances for GA Airports.

Not Applicable.

Applicable.

Depict FAA Approval Date for each Declared Distance:

Include Declared Distances in Runway Data Table

Clearway — **Connected to & extending beyond Rwy End. (avail for completion of Takeoff for Turbine A/C; increases allowable Takeof weight without increasing Rwy length).*

Clearway Width must be at least 500 feet on centerline.

Clearway Length practical limit of no more than 1000 feet beyond Rwy End on centln.

Clearway Plane of 1.25% (80:1 slope)

Stopway — **Area beyond the Takeoff Rwy on centerline, avail for Decelerating A/C during aborted Takeoff.*

Stopway Width: See Appendix 14; 150/5300-13

Stopway Length: See Appendix 14; 150/5300-13

**Stopway Length & Declared Distances must be published in the Airport/Facilty Directory.*

Distance from Rwy Centerline to A/C Apron

No Blast Pads allowed at GA Airports

(12) Topographic Information - Show ground **contours** at intervals:

Contours **2 feet to 10 feet** (1 m to 5 m) depending on terrain.

(13) Elevations

(a) Runway - Existing and Ultimate: in NAVD 88

Elevation of Runway Ends.

Elevation of Displaced Thresholds.

Touchdown Zones Elevation (TDZE), for first 3,000' of Rwy which will have/has a Published Straight-In Min (Approach Plates).

Elevation of Runway Intersections.

Ruway High and Low Points - accuracy to the nearest 1/10 of a foot (1cm).

Structures Elevation on Airport – If Terminal Area Plan Drawing is not to be included:

(14) Building Restriction Lines (BRL) - use to restrict buildings from "runway visibility zones. "Based on FAA Part 77surface 7:1

Depicted on **Both** sides of the Runways

BRL extended to Airport Property Line or to RPZ

BRL must clear Taxiway Object Free Area and Standard for Taxiway centerline to fixed or moveable object.

(15) Runway Protection Zone (RPZ) - Details **Check for RPZ Dimensions per Table 2-4*

Dimensions identified.

Exsiting RPZ	***Future*** RPZ
Runway End _____:	Runway End_____:
Runway End _____:	Runway End _____:
Runway End _____:	Runway End _____:
Runway End _____:	Runway End _____:
Runway End _____:	Runway End _____:
Runway End _____:	Runway End _____:

Approach Slopes.

RPZ property type. Indicate: (Fee, Avigation Easement, Future Acquisition, Unregulated) with appropriate legend symbol.

Places of Public Assembly. Show residences and places of public assembly and how they will be removed on the drawing.

****Extension of OFA to end of RPZ encouraged.***

(16) Holding Position Signs and Markings -

Depict the Holding Position Markings.

Holding Position Marking sign distance from runway centerline.

(17) Taxiway Details - Dimensions:

Taxiway Widths; Existing and Ultimate.

Labeled by Name (i.e, Twy A, B).

Distance of Taxiway Separation from Rwy Centerline.

Distance of Taxiway Separation from Parallel Taxiways.

Parallel Taxiway must lead to Threshold (for **ILS** Runway).

Distance of Taxiway Separation from **Aircraft Parking Areas**, and objects.

Existing and Ultimate **Aircraft Tie-Down** Location and Layout

Table Elements	**Prepared as per Airport Design, 150/5300-13, Chg 7.; Standards for Airport Markings, AC 150/5340-H1; Terps Order 8260.3, Visibility Minimums.*	**Comments**
(18) Airport Data Table - Existing and Ultimate/Future.		
Airport Elevation in Feet above Mean Sea Level (MSL)		
Airport Reference Point (ARP) with Lat & Long Coordinates to nearest second.		
NAVAIDS (ILS, beacon, ALS). **Note:** *if ALS check Inner Approach OFZ standards.*		
Mean Max. Temperature (degrees Fahrenheit); indicate hottest Month		
Airport Reference Code: Runway Category (A-D) & Airplane Design Group (I-VI)		
GPS at Airport		
(19) Coordinates (NAD 83 Datums) - Existing and Ultimate/Future.		
Runway End Coodinate Box		
(20) Runway Data Table - Existing and Ultimate/Future.		
Design Critical Aircraft - *Must be supported by Forecast and must reflect 500 annual operations at this airport.		
Wingspan of Design Aircraft and Undercarriage Width of Design Aircraft		
Approach Speed (Knots) of Design A/C		
Max. Certified Takeoff Weight (Lbs.) of Design A/C		
% Effective Gradient		
% Maximum Gradient		
% Wind Coverage (Show MPH)		

	Approach Visibility Minimums for each Runway End- Visual, 1 Mile, 3/4 Mile, 1/2 Mile, CAT II, CAT III	
	Marking for each Runway End - Visual, Non-Precision, Precision.	
	FAR Part 77 Category by Runway End:	
	a) Visual/Visual	
	b) Precision/Nonprecision	
	c) Visual/Utility	
	d) Nonprecision/Utility	
	Standard Separation - Runway centerline to parallel taxiway centerline	
	Standard Separation - Taxiway centerline to fixed or movable object	
	Taxiway Object Free Area Width	
	Taxiway Safety Area Width	
	Taxiway Wingtip Clearance	
	Elevations (NAVD 88) of Runways Ends	
	Elevation of Runway Touchdown Zone (TDZ)	
	Elevation of Runway High Point	
	Elevation of Runway Low Point	
	Line of Sight requirment met.	
	Runway Length; Existing and Ultimate	
	Runway Width; Existing and Ultimate	
	Runway Surface Type (turf, dirt, asphalt)	
	Taxiway Surface Type (turf, dirt, asphalt)	
	Approach Slope (20:1, 34:1, 50:1)	
	Pavement Strength in Lbs and Type (single wheel, dual, dual tandum)	
	Runway Lighting (MIRL, HIRL, LIRL)	
	Navigational Aids (ILS, GPS, NDB)	
	Visual Aids (REIL)	
	RSA Length Beyond Stop End of Runway	
	RSA Width	
	OFA Length Beyond Stop End of Runway	
	OFA Width	
	OFZ Length Beyond Stop End of Runway	
	OFZ Width	
	Distance from Runway Centerline to Hold Bars and Signs	
	(21) Legend Table	
	**Graphic depiction/symbols/lines of Existing and Ultimate/Future Development with Descriptions.*	
	Drawing Lines are clear and readable; sufficient scale and quality to discern details.	
	Section Corners - Min. of two section corners must be depicted in drawing	
	Existing Property Boundary Line -APL	
	Ultimate/Future Property Boundary (with dashed lines)	
	Existing Development (with Solid/Bold lines)	
	Ultimate/Future Development (with dashed lines)	
	BRL - ****Label Required with distinct line type.***	
	OFA - ****Label Required with distinct line type.***	
	RSA - ****Label Required with distinct line type.***	
	OFZ - ****Label Required with distinct line type.***	
	Airport Pavement Development (shaded)	
	Structure/Facilities	
	Fencing	
	Contours	
	Airport Reference Point (ARP)	
	(22) Title and Revision Blocks - Refer to example in figure A6-1.	
	Name and Location of Airport	
	Preparer of Drawings (Sponsor or Consultant)	
	Date of Drawing	
	Approval Block - Sponsor only	
	ALP Must be Signed. All copies must have "**Wet**" signatures (not copied from one signed drawing)	
	Drawing Title (ALP, Airspace, Land Use, Terminal)	
	FAA Disclaimer information	
	Revision Area Block - Include minimum of 2 previously approved ALPs	
	Standard 3"x4" area for FAA Approval Stamp	
	NO submission of VELLUM DRAWINGS for signature approval	
	(23) Building Table	
	Identify existing and proposed structures by number	
	Includes a description of each structure with corresponding number	

	Includes a column for the top building elevations if a Terminal Area Drawing is not included.	
	(24) Location and Vicinity Maps – These are optional.	
	(25) Non -Standard areas identified :	
	If applicable, submit a **Request for Modification to Standards as per FAA Order 5300.1F, Pg 2, #8 "Modification to Agency Airport Design, Construction, and Equipment Standards"** Sponsor must wait for the FAA Determination **prior** to Final ALP Submission. The FAA Determination & Date must be reflected on the ALP Drawing.	
	Letter with Sponsor's Request for a Modification to Standards must contain: 1) A List of Standards affected and the basis for the request as allowed in Para 7. 2) A Description of the proposed modification. 3) A discussion of viable alternatives for accomodating the unusual conditions. 4) An Assurance that the Modification to Airport Design Standards will provide an acceptable level of safety.	
	Non Standard RSA must be addressed via an RSA Study & Determination	